

REMARKS

This is response to the Final Office action (Paper No. 20070104-A) mailed on 12 January 2007.

Claims 1, 4 and 15 have been amended. Since the amendments will place the case either in condition for allowance or in better form for appeal, or in some other way require only a cursory review by the examiner, it is respectfully requested that the amendments be entered.

No new matter has been added.

I. Drawings Objection

Fig. 5 has been amended to show a filter.

Withdrawal of the objection is respectfully requested.

II. Claim Rejections – 35 USC §103

According to MPEP 706.02(j), the following establishes a *prima facie* case of obviousness under 35 U.S.C. §103:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In*

re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

A. Claims 1, 2, 4, 5, 8, 9, 11, 13, 14, 15, 16 and 17 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Ryman in view of European Patent Application (EP 0 746 051) and Kojima *et al.* or Monnett.

1. The examiner failed to establish a prima facie case of obviousness because the examiner failed to show that there is some suggestion or motivation to modify the reference.

(1). The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). (MPEP 2143.01).

Here, the examiner merely argued that, since Ryman '155 discloses the capacitor structure claimed but applied to the component 14 (col. 6, lines 51-54) and D'Oro '051 discloses in Figs. 2, 3 and 5 the conductor shaft (PF) being inserted in the reception tube (CC) so that the first conductor and the second conductor are assembled with each other. The examiner further argued that this combination is desirable to simplify the capacitive mechanism.

However, please note that the inner conductor 20 of Ryman '155 does not have to have the capacitance structure. That is, there is neither suggestion nor teaching that it is desirable to modify the inner conductor 20 of Ryman '155 to the capacitance mechanism structure. Specifically, Ryman '155 teaches that "[t]he inner or outer conductor 20 may further be tuned by utilizing one or more increased and/or decreased diameter segments 23, 25, 27." (See col. 4 lines

35-38 in Ryman '155.)

Claims 1 and 4 recite “the conductor shaft being inserted in the reception tube to function as electrode plates of a capacitor” so that the DC power is not outputted to the second conductor 402.

With respect to this function, the Ryman '155 expressly discloses a DC blocking device at col. 10, lines 16 to 26 as follows:

“A DC blocking device 80 is operatively coupled in series with the first inner conductor 20 of the through-section 12. The DC blocking device 80 blocks DC current from propagating toward the first end 15 of the through-section 12, which is the source of the RF signals, but permits the DC current to propagate in the direction toward the second end 16 of the through-section, where the active components may be located. The DC blocking device 80 is preferably a commercially available capacitor, which is coupled in series with the inner conductor 20 of the through-section 12” (emphasis added).

The arrangement of the DC blocking device 80 is also shown in Fig. 3 of Ryman '155. According to Ryman '155's teaching, the DC blocking device is additionally coupled in series with the first inner conductor.

Therefore, the ordinary skilled person may replace the DC blocking device 80 with the structure of the resonator having an open circuit of D'Oro '051. That is, at most, the examiner may argue that the DC blocking device of Ryman '155 rather than the inner conductor 20 of Ryman '155 (which preferably utilizes one or more increased and/or decreased diameter segments (col. 4 lines 35-38 in Ryman '155) may be replaced with the structure of D'Oro '051. This is an element separately coupled in series with the inner conductor 20 of Ryman '155. Even if this blocking device is replaced with the structure of D'Oro et al. '051, the suggested capacitor

is still an element separately coupled in series with the inner conductor 20 of Ryman '155. On the other hand, in the present invention, the structure of the center conductor makes an additional separate capacitor unnecessary because the center conductor has a structure to function as electrode plates of a capacitor.

In response to our argument, in the Final Office action (Paper No. 20070104), the examiner also argued that “the rejection recommends replacement of the standard capacitor with a simple capacitor structure, [...] according to the secondary reference (EP 0746051, Fig. 8, the joint at A) is just male-female connection of the two parts of inner (central) conductor. With this structure tuning (which instead can be performed at the outer conductor according to Ryman) is not affected and the capacitor is disposed in series between two ends of two parts of the inner conductor.”

The examiner's reasoning is hardly understood because it is not sufficiently explained. In addition, it seems that the examiner argued that the examiner disregarded the explicit suggestion of Ryman '155 and constructed the invention with a hindsight bias. It should be noted that the simplification of the manufacturing process is one of the objectives of the instant application, and the prior art references do not recognize the problems, as stated above, which are solved by the present application, and does not provide a solution to achieve the above objectives.

Also, the examiner's reasoning of simplification of the capacitive mechanism is not proper. Ryman '155 shows that a commercially available capacitor is preferably used. That is, at most it would have been obvious to one having ordinary skill in the art at the time to connect the capacitor which is commercially available, but it would not have been obvious to change the

whole structure of the center conductor 20 of Ryman '155. Even considering the simplification of the capacitive mechanism, the change of the whole structure of the center conductor 20 of the Ryman '155 is not obvious because the simplification of the capacitive mechanism is understood by changing the capacitor (i.e., DC blocking device). According to the examiner's reasoning of simplification of the capacitive mechanism, the whole invention of Ryman '155 should be replaced with the whole invention of D'oro et al. '051 because D'oro et al. '051 is simpler than Ryman '155.

(2). Please also note that, in *KSR v. Teleflex*, the Supreme court stated that:

“Often, it will be necessary...to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the market place; the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue. To facilitate review, this analysis should be made explicit.” (Emphasis added).

The examiner's analysis was not made explicit or complete, particularly, in that why only a specific portion rather than the whole invention of Ryman '155 should be replaced with a specific portion rather than the whole invention of D'oro et al. '051 if the replacement is for the simplification of the capacitive mechanism.

2. In addition, claim 1 recites “a fixing pin having a first end connected perpendicularly to the first conductor of the center conductor and a second end inserted in the fixing hole to fix the first conductor to the housing and to supply direct current power from the second end to the output connector”.

The examiner argued that the first end and the second end of the fixing pin are disclosed in “30” and “34”, respectively, in Fig. 1. However, “34” is the outer wall of the hollow inner conductor 26, and “30” is the input end of the inner conductor 26. This inner conductor 26 contains a corresponding tapped aperture 36, and does not have a pin shape. The meaning of “pin” according to the America Heritage dictionary of the English Language (Third Edition, Houghton Mifflin Company, 1996) is defined as “2. A slender, usually cylindrical piece of wood or metal for holding or fastening parts together, or serving as a support for suspending one thing from another, as: a. A thin rod for securing the ends of fractured bones. b. A peg for fixing the crown to the root of a tooth. c. A cotter pin.” The inner conductor 26 of Ryman ‘155 is not within the meaning of “pin”. Alternatively, If the examiner takes the input end 30 as a fixing pin of claim 1 of the present application, please also note that the input end 30 is not inserted in the fixing hole.

Furthermore, the examiner merely stated that the fixing hole in which the fixing pin is inserted is disclosed in Ryman ‘155, Ryman ‘155 shows only a recess, but does not show the fixing hole, or the examiner did not provide the reasoning for which part in Ryman ‘155 is the fixing hole.

3. Claim 1 recites the feature of “the direct current power being supplied to said first conductor through a filter and said fixing pin.” The examiner argued that Sato et al. discloses EMI filter using coils and dielectric materials. However, the feature of “the direct current power being supplied to said first conductor through a filter and said fixing pin” is not taught or suggested by Ryman in view of European Patent Application (EP 0 746 051) and Kojima et al. or Monnett or in combination with Sato et al.

The examiner merely showed that Sato teaches the EMI filter, but did not provide why it is desirable to additionally include the EMI filter in Ryman ‘155 in view of D’oro ‘051. It should be noted that, in Ryman ‘155, a radio frequency (RF) short circuit or RF bypass is provided by a capacitance which is provided between the center conductor 26 and the grounded outer conductor 28 of the stub. The examiner’s reasoning is not sufficient to show a desirability of the combination.

4. Regarding claim 9, claim 9 recites the feature of “the direct current supplied to said first conductor and radio frequency signal are transmitted to an antenna tower, the radio frequency signal is not outputted to said fixing pin to which the direct current power is applied, accommodated through an impedance of said fixing pin being indefinite through a coil constructing said filter.” This feature is not taught or suggested by the references.

For the foregoing reasons, claims 1, 2, 4, 5, 8, 9, and 11-17 are not obvious over the prior art.

B. Claim 15 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Ryman in view of European Patent Application (EP 0 746 051) and further in view of Sato et al.

To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

The examiner merely argued that "Sato et al. discloses EMI filter using coils and dielectric materials. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Ryman with the EMI filter, as taught by Sato et al., to effectively suppress the EMI noise.

However, an EMI filter in the recess is not taught or suggested. Sato only provides an EMI filter, but does not teach or suggest that it should be in the recess of Ryman '155. The examiner's reasoning is at most that the EMI filter can be incorporated into Ryman '155 modified by EP '051 at a certain position. The examiner should provide why it is desirable to position the EMI filter in the recess of Ryman '155. As stated above, in Ryman '155, a radio frequency (RF) short circuit or RF bypass is provided by a capacitance which is provided between the center conductor 26 and the grounded outer conductor 28 of the stub. Please provide the examiner's complete reasoning.


Please also note that the Federal Circuit has mentioned that "[t]he test for obviousness is not whether the features of one reference may be bodily incorporated into another

reference...Rather, we look to see whether combined teachings render the claimed subject matter obvious." *In re Wood*, 599 F.2d 1032, 202 USPQ 171, 174 (CCPA 1979) (citing *In re Bozek*, 416 F.2d 1385, 1390, 163 USPQ 545, 549-50 (CCPA 1969); *In re Mapelsden*, 329 F.2d 321, 322, 141 USPQ 30, 32 (CCPA 1964).

Therefore, claim 15 is patentable.

In view of the above, all claims are submitted to be allowable and this application is believed to be in condition to be passed to issue. Reconsideration of the rejections is requested. Should any questions remain unresolved, the Examiner is requested to telephone Applicant's attorney.

Respectfully submitted,



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